MODULES

IN PYTHON PROGRAMMING

MODULES

- A python modules can be defined as a python program file.

    - It contains – functions, class or variables.

- Modules in Python provide us the flexibility to organize the code in a logical way.

- Example:

    def myModule(name)

        print("Hi!", name);

- Save the above code with <filename>.py

LOADING A MODULE IN PYTHON CODE

- Python provides 2 types of statements:
    - Import Statement
    - From-import Statement

IMPORT STATEMENT

- Import statement is used to import all the functionality of one module into another.

- We can import multiple modules with a single import statement, but a module is loaded once regardless of the number of times.

- Syntax:

  import module1, modeule2, ... , module n

- Example:

  import file

  name = input("Enter your name:")

  file.displayMsg(name)

FROM-IMPORT STATEMENT

- It provides the flexibility to import only the specific attributes of a module.
- Syntax:

    from <module-name> import <name1>, <name2> . . .

- Calculation.py

```
def sum(a,b):
        return a + b
def mul(a,b):
        return a * b
def div(a,b):
        return a/b
```

EXAMPLE

- Myprogram.py

    from calculation import sum   #it will import only the sum() from calculation.py

    a = int(input("Enter the first number"))

    b = int(input("Enter the second number"))

    print("Sum = ", sum(a,b))

IMPORT AS STATEMENT [RENAMING A MODULE]

- Python provides us the flexibility to import some module with a specific name so that we can use this name to use that module in python source file.

- Syntax:

  import <module-name> as <specific-name>

- Example:

  import calculation as cal;

  a = int(input("Enter first number"))

  b = int(input("Enter second number"))

  print("Sum = ", cal.sum(a,b))

DIR( ) FUNCTION

- The dir( ) function returns a sorted list of names defined in the passed module.

- This list contains all the sub-modules, variables and functions defined in this module.

- Example:

  import json

  list = dir(json)

  print(list)

RELOAD( ) FUNCTION

- If you want to reload the already imported module to re-execute the top-level code, python provides us the reload( ) function.

- Syntax:

  reload(<module-name>)

- Example:

  reload(calculation)

PYTHON PACKAGES

- The packages in python facilitate the developer with the application development environment by providing a hierarichical directory structure where a package contains sub-packages, modules, and sub-modules.

- The packages are used to categorize the application level code efficiently.

EXAMPLE OF PACKAGE

- Library management system which contains three sub-packages as Admin, Librarian, and student. The sub-packages contain the python modules.